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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,545	07/07/2000	Jea-Seong Kim	0630-1115P	9390

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Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER

ZHENG, EVA Y

ART.UNIT PAPER NUMBER

2634

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/612,545	KIM, JEA-SEONG	
	Examiner	Art Unit	
	Eva Yi Zheng	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. The request filed on February 14, 2005, for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/612,545 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Diepstraten (US 5,339,316).

a) Regarding claim 1, Diepstraten disclose a method for serial data communication which transmits and receives data in two-way, comprising:

transmitting data (TXD 58 in Fig. 2) and a separate clock signal (TXC 60 in Fig. 2) from a first control unit (46 in Fig. 2) to a second control unit (62 in Fig. 2), at the same time checking a reception confirmation signal of the second control unit by the first control unit (CONTROL/STATUS 56 in Fig. 2);

transmitting data (inherent as RXD 52 in Fig. 2) and a separate clock signal (inherent as RXC 54 in Fig. 2) from a second control unit (62 in Fig. 2) to the first control

unit (46 in Fig. 2), at the same time checking a reception confirmation signal of the first control unit by the second control unit (CONTROL/STATUS 56 in Fig. 2); and

receiving the data (RXD 52 in Fig. 2) and the separate clock signal (RXC 54 in Fig. 2) from the second control unit (62 in Fig. 2) by the first control unit (46 in Fig. 2), at the same time checking a transmission confirmation signal of to the second control unit by the first control unit (CONTROL/STATUS 56 in Fig. 2).

b) Regarding claim 2, Diepstraten disclose the method according to claim 1, wherein said data transmission process further includes the steps of:

(a) confirming whether data was received (inherently as CONTROL/STATUS 56 in Fig. 2), starting the data transmission with a data transmission start signal (71 in Fig. 3), and receiving the reception confirmation signal from the second control unit (62 in Fig. 2);

(b) recognizing the data reception of the second control unit (62 in Fig. 2), and reversing the transmission start signal in order to transmit a next data (72 in Fig. 3) (Col 3, L62-Col 4, L2);

(c) transmitting a transmission permission signal which permits the next data transmission to the first control unit by the second control unit (RXD52 in Fig. 2); and

(d) feedback-receiving the transmission permission signal (as shown in Fig. 2).

c) Regarding claim 3, Diepstraten disclose the method according to claim 1, wherein said data reception process further includes the steps of:

(a) receiving a first data (RXD52 in Fig. 2) from the second control unit (62 in Fig. 2) and feedback-performing a signal for informing the reception (CONTROL/STATUS 56 in Fig. 2);

(b) receiving a preparation signal for informing a next data transmission from the second control unit (as shown in Fig. 2);

(c) transmitting the data transmission permission signal to the second control unit (TXD58 in Fig. 2); and

(d) transmitting the next data on the second control unit after feedback receiving the data transmission permission signal (as shown in Fig.2).

d) Regarding claim 4, Diepstraten disclose the method according to claim 2, wherein the number of the to transmitted data is adjusted voluntarily in accordance with communication circumstances, and is determined in accordance with data processing unit of the second control unit (as shown in Fig. 3; Col 3, L54-Col 4, L2).

e) Regarding claim 5, Diepstraten disclose the method according to claim 2, wherein a transmission error occurs when the reception confirmation signal is not received (Col 4, L3-14).

f) Regarding claim 6, Diepstraten disclose wherein a point of input time of the feedback signal which informs of the data reception and processing of the first control unit is set in accordance with a processing rate of the second unit (Col 3, L30-Col 4, L2).

g) Regarding claim 7, Diepstraten disclose the method according to claim 2, wherein the transmitting process of the data reception confirmation signal and the data

transmission permission signal is performed more than two times (as shown in Fig. 6A, Fig. 6B and Fig. 8).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diepstraten (US 5,339,316) in view of Knoblock et al. (4,186,379), and in further view of Wong (6,650,149).

Diepstraten disclose an apparatus for serial data communication, comprising:

two control units (46 and 62 Fig. 2) for transmitting data with a data transmission start signal at a data transmission mode, performing repeatedly the data transmission process which feedback-receives a data transmission permission signal and a reception permission signal from one control unit to the other control unit and transmits the data, and transmitting repeatedly the data reception confirmation signal and the data transmission permission signal from one control unit to the other control unit (TXC60, TXD 58, RXC54, and RXD52 in Fig. 2);

four serial buses for performing serial data transmission and clock signal transmission between the two control units, each of said control units transmitting a clock signal separately from a data signal (as shown in Fig. 2);

Diepstraten disclose all the subject matter claimed, except the special teaching of (A) two pull-up operation units, and (B) a control voltage matching unit.

With respect to item (A), Knoblock et al. disclose pull-up operation units for maintaining control voltage level of the to serial buses at a certain level (Fig. 3; Col 2, L 65- Col 3, L16).

Data driver most commonly used to drive data and valid data indicator lines typically contain either passive or active "pullup" circuitry. (Col 1, L18-20) Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ pullup resistors apparatus taught by Knoblock et al. in the data transmission system taught by Diepstraten. In doing so, data are transmitting under a known and controlled voltage. Therefore, improving data transmitting process and quality.

With respect to item (B), Wong discloses a control voltage matching unit for continuing voltage equilibrium condition by muting excessive voltage at grounding side when the control voltage level do not coincide with the serial bus due to an operation voltage difference of the pullup operation units (Fig. 1-4; Col 1, L66- Col 2, L11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ a control voltage matching unit (fail-safe circuits) taught by Wong in the pullup resistors apparatus taught by Knoblock et al. In doing so, signals that are transmitted over cables, buses, or drivers have better quality and transmission rate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is (571) 272-3049. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

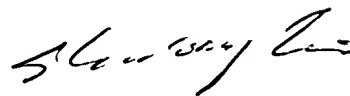
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

April 19, 2005



**SHUWANG LIU
PRIMARY EXAMINER**